REMARKS

In reply to the Office Action of June 15, 2004, Applicant submits the following remarks.

Claims 1-3 are pending, with each claim being independent. Claims 1-3 have been amended for grammatical reasons and to explicitly state what was the originally filed claims implied as a matter of logic. No new matter has been added.

Claims 1-3 stand rejected as allegedly being obvious over U.S. Patent No. 6,049,565 ("Paradine") in view of J.S. Erkelens and P.M.T. Broersen, "Bias Propagation in the Autocorrelation Method of Linear Prediction," IEEE Trans on Speech and Audio, Vol. 5, pp. 116-116, 1997 ("Erkelens"). Applicant requests withdrawal of this rejection because neither Paradine nor Erkelens, alone or in combination, describes or suggests the subject matter of independent claims 1, 2, or 3.

Independent claims 1, 2, and 3, respectively, recite a method, a computer program, and a computer system for detecting whether or not a microphone is connected to a real-time audio communication system of a computer. As recited in the claims, an audio sample is recorded through the real-time audio communication system, a DC component is filtered out of the audio sample, and values of auto-correlation coefficients of the filtered audio sample are determined. The values of the auto-correlation coefficients of the filtered audio sample are compared with predetermined values. Whether a microphone is properly connected to the real-time audio communication system and whether the microphone is not properly connected is determined based on the comparison of the values of the auto-correlation function coefficients with the predetermined values.

Neither Paradine nor Erkelens, nor the combination of the two, describes or suggests determining whether a microphone is properly connected to a real-time audio communication system and whether the microphone is not properly connected based on a comparison of values of auto-correlation function coefficients with predetermined values.

Paradine relates to an audio communication apparatus that reduces data network traffic by distinguishing between voice activity and silence or background noise. Sound input through a microphone is recorded by the apparatus. The apparatus distinguishes voice signals from silence

and background sound and transmits through the data network only portions of the recording that correspond to voice data along with signals indicating the length of silence or background sound between successive voice data portions of the recording. Accordingly, data traffic on the network is reduced. See Abstract; col. 2:30-54. An algorithm is used to differentiate voice activity from silence and background noise recorded by the microphone. Col. 6:7-25. However, Paradine does not address how to determine whether a microphone is connected to the audio communication apparatus. Rather, Paradine presumes that that the microphone is connected to the apparatus and monitors the recorded signal for voice input to determine whether the sound recorded by microphone (that is always properly connected) is a voice signal or noise. When a voice signal is recorded, Paradine can conclude that the microphone is properly connected. However, when noise is recorded, Paradine is unable to determine whether or not the microphone is connected properly. In logical terms, while Paradine can prove "IF A, THEN B," Paradine cannot be used to prove "IF NOT A, THEN NOT B," where "A" is the presence of voice activity, and "B" is the connection of a microphone. Thus, the determination of voice activity, as disclosed in Paradine, is of no aid in determining whether or not a microphone is connected.

In contrast, claim 1 requires performing a comparison between values of auto-correlation coefficients of a filtered audio sample and predetermined values and determining whether or not a microphone is properly connected to the real-time audio communication system based on the comparison. Paradine never determines whether or not a microphone is connected to the communication system. Indeed, such a determination is never even sought by Paradine because the microphone is presumed to be always connected. Moreover, Paradine is directed toward reducing excessive data traffic on a network, and thus, fails to motivate a modification that would enable determining whether or not a microphone is properly connected.

Erkelens relates to a particular autocorrelation method. However, Erkelens does not disclose or suggest using the method to determine whether a microphone is properly connected to an audio communication system.

For at least these reason, applicants request withdrawal of the rejection of independent claim 1. Applicants also request withdrawal of the rejection of independent claim 2, which recites a computer program for detecting whether a microphone is connected to an audio communications system of a computer, and independent claim 3, which recites a computer system running programmed processes comprising a process for detecting whether a microphone is connected to an audio communication system.

Enclosed is a $110 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 06975-208001.

Respectfully submitted,

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